

AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A liquid crystal television receiver which corrects optical response characteristics of a liquid crystal panel by subjecting image data supplied to the liquid crystal display panel to enhancing conversion at least in accordance with image data of a directly previous vertical period and image data of a current vertical period,

the liquid crystal television receiver being capable of reproducing images based on image data of more than one broadcasting standard,

the liquid crystal television receiver comprising:

signal type detection means for detecting whether input image data is a video signal of a first broadcasting standard or a video signal of a second broadcasting standard, the video signal of the first broadcasting standard being different, in terms of a vertical frequency, from the video signal of the second broadcasting standard;

enhancing conversion means for subjecting the input image data to enhancing conversion in a direction of gray level transition;

temperature detection means for detecting a temperature in the liquid crystal television receiver; and

table memories that store enhancing conversion parameters that correspond to respective temperatures in the liquid crystal television receiver and are specified by the image data of the current vertical period and the image data of the directly previous vertical period,

the enhancing conversion means including an operation section that performs, using the enhancing conversion parameter read out from the table memories, an operation on the image data so as to enhance the image data, in accordance with a result of comparison between (i) a

switching temperature determined by the result of the detection by the signal type detection means and (ii) the result of the detection by the temperature detection means.

2. (Previously Presented) A liquid crystal television receiver which corrects optical response characteristics of a liquid crystal panel by subjecting image data supplied to the liquid crystal display panel to enhancing conversion at least in accordance with image data of a directly previous vertical period and image data of a current vertical period,

the liquid crystal television receiver being capable of reproducing images based on image data of more than one broadcasting standard,

the liquid crystal television receiver comprising:

signal type detection means for detecting whether input image data is a video signal of a first broadcasting standard or a video signal of a second broadcasting standard, the video signal of the first broadcasting standard being different, in terms of a vertical frequency, from the video signal of the second broadcasting standard;

enhancing conversion means for subjecting the input image data to enhancing conversion in a direction of gray level transition;

temperature detection means for detecting a temperature in the liquid crystal television receiver; and

table memories that store enhancing conversion parameters that correspond to respective temperatures in the liquid crystal television receiver and are specified by the image data of the current vertical period and the image data of the directly previous vertical period,

at least one of the table memories being referable regardless of the signal type, and

the enhancing conversion means subjecting the image data to the enhancing conversion, using the enhancing conversion parameter read out from one of the table memories that is selected and referred to in accordance with the result of detection by the signal type detection means and the result of detection by the temperature detection means.

3. (cancelled)

4. (cancelled)

5 (cancelled)

6. (cancelled)

7. (Previously Presented) A liquid crystal television receiver which corrects optical response characteristics of a liquid crystal panel by subjecting image data supplied to the liquid crystal display panel to enhancing conversion at least in accordance with image data of a directly previous vertical period and image data of a current vertical period,

the liquid crystal television receiver being capable of reproducing images based on image data of more than one broadcasting standard,

the liquid crystal television receiver comprising:

signal type detection means for detecting whether input image data is a video signal of a first broadcasting standard or a video signal of a second broadcasting standard, the video signal

of the first broadcasting standard being different, in terms of a vertical frequency, from the video signal of the second broadcasting standard;

enhancing conversion means for subjecting the input image data to enhancing conversion in a direction of gray level transition;

temperature detection means for detecting a temperature in the liquid crystal television receiver; and

a table memory that stores an enhancing conversion parameter specified by image data of a current vertical period and image data of a directly previous vertical period,

the enhancing conversion means including:

an operation section that performs an operation on the image data so as to enhance the image data, using the enhancing conversion parameter; and

a multiplying section that multiplies output data of the operation section by a coefficient corresponding to the result of detection by the signal type detection means and the result of detection by the temperature detection means.

8. (Previously Presented) A liquid crystal television receiver which corrects optical response characteristics of a liquid crystal panel by subjecting image data supplied to the liquid crystal display panel to enhancing conversion at least in accordance with image data of a directly previous vertical period and image data of a current vertical period,

the liquid crystal television receiver being capable of reproducing images based on image data of more than one broadcasting standard,

the liquid crystal television receiver comprising:

signal type detection means for detecting whether input image data is a video signal of a first broadcasting standard or a video signal of a second broadcasting standard, the video signal of the first broadcasting standard being different, in terms of a vertical frequency, from the video signal of the second broadcasting standard;

enhancing conversion means for subjecting the input image data to enhancing conversion in a direction of gray level transition;

temperature detection means for detecting a temperature in the liquid crystal television receiver;

a first table memory that stores an enhancing conversion parameter specified by the image data of the current vertical period and the image data of the directly previous vertical period, the first table memory being referred to when the input image data is the video signal of the first broadcasting standard; and

a second table memory that stores an enhancing conversion parameter specified by the image data of the current vertical period and the image data of the directly previous vertical period, the second table memory being referred to when the input image data is the video signal of the second broadcasting standard,

the enhancing conversion means including:

an operation section that performs, using the enhancing conversion parameter read out from the first or second table memory in accordance with the result of the detection by the signal type detection means, an operation on the image data so as to enhance the image data; and

a multiplying section that multiplies output data of the operation section by a coefficient corresponding to the result of detection by the temperature detection means.

9. (Previously Presented) A liquid crystal television receiver which corrects optical response characteristics of a liquid crystal panel by subjecting image data supplied to the liquid crystal display panel to enhancing conversion at least in accordance with image data of a directly previous vertical period and image data of a current vertical period,

the liquid crystal television receiver being capable of reproducing images based on image data of more than one broadcasting standard,

the liquid crystal television receiver comprising:

signal type detection means for detecting whether input image data is a video signal of a first broadcasting standard or a video signal of a second broadcasting standard, the video signal of the first broadcasting standard being different, in terms of a vertical frequency, from the video signal of the second broadcasting standard;

enhancing conversion means for subjecting the input image data to enhancing conversion in a direction of gray level transition;

temperature detection means for detecting a temperature in the liquid crystal television receiver;

first table memories that store enhancing conversion parameters that correspond to respective temperatures in the liquid crystal television receiver and are specified by the image data of the current vertical period and the image data of the directly previous vertical period, the first table memories being referred to when the input image data is the video signal of the first broadcasting standard; and

second table memories that store enhancing conversion parameters that correspond to respective temperatures in the liquid crystal television receiver and are specified by the image data of the current vertical period and the image data of the directly previous vertical period, the

second table memories being referred to when the input image data is the video signal of the second broadcasting standard,

the enhancing conversion means including an operation section that performs, using the enhancing conversion parameter read out from one of the first and second table memories in accordance with the result of the detection by the signal type detection means and the result of the detection by the temperature detection means, an operation on the image data so as to enhance the image data.

10. (cancelled)

11. (Currently Amended) The liquid crystal television receiver as defined in claim 1-~~or~~2, further comprising control means that controls switching and selection of the enhancing conversion parameters,

the control means including:

an operation section that performs, on temperature data detected by the temperature detection means, a predetermined operation corresponding to each signal type of the input image data;

a threshold discriminating section that compares the temperature data, which has been subjected to the operation by the operation section, with predetermined threshold temperature data; and

a control signal output section that generates a switching control signal with which the enhancing conversion parameters are switched and controlled, in accordance with a result of comparison by the threshold discriminating section.

12. (Currently Amended) The liquid crystal television receiver as defined in claim 1-~~or~~2, further comprising control means that controls switching and selection of the enhancing conversion parameters,

the control means including:

a threshold discriminating section that compares temperature data, which is detected by the temperature detection means, with predetermined threshold temperature data; and

a control signal output section that generates a switching control signal with which the enhancing conversion parameters are switched and controlled, in accordance with a result of comparison by the threshold discriminating section.

13. (Previously Presented) A liquid crystal display control method for correcting optical response characteristics of a liquid crystal display panel, by subjecting image data supplied to the liquid crystal display panel to enhancing conversion at least in accordance with image data of a directly previous vertical period and image data of a current vertical period,

the liquid crystal panel being capable of reproducing images based on image data of more than one broadcasting standard,

the method comprising the steps of:

(i) detecting whether a signal type of input image data is a video signal of a first broadcasting standard or a video signal of a second broadcasting standard, the video signal of the first broadcasting standard being different, in terms of a vertical frequency, from the video signal of the second broadcasting standard;

(ii) subjecting the image data to the enhancing conversion in a direction of gray level transition;

(iii) detecting a temperature in an apparatus;

(iv) referring to table memories that store enhancing conversion parameters that correspond to respective temperatures in the apparatus and are specified by the image data of the current vertical period and the image data of the directly previous vertical period; and

(v) in accordance with a comparison between a switching temperature determined by the signal type detected in the step (i) and the temperature detected in the step (iii), performing an operation on the image data so as to enhance the image data, using the enhancing conversion parameter read out from one of the table memories.

14. (Previously Presented) A liquid crystal display control method for correcting optical response characteristics of a liquid crystal display panel, by subjecting image data supplied to the liquid crystal display panel to enhancing conversion at least in accordance with image data of a directly previous vertical period and image data of a current vertical period,

the liquid crystal panel being capable of reproducing images based on image data of more than one broadcasting standard,

the method comprising the steps of:

(i) detecting whether a signal type of input image data is a video signal of a first broadcasting standard or a video signal of a second broadcasting standard, the video signal of the first broadcasting standard being different, in terms of a vertical frequency, from the video signal of the second broadcasting standard;

(ii) subjecting the image data to the enhancing conversion in a direction of gray level transition; and

(iii) detecting a temperature in an apparatus,

in the step (ii), the image data being subjected to the enhancing conversion, using an enhancing conversion parameter read out from one of table memories that is selected and referred to in accordance with the result of detection in the step (i) and the result of detection in the step (iii), the table memories storing enhancing conversion parameters that correspond to respective temperatures in the apparatus and are specified by the image data of the current vertical period and the image data of the directly previous vertical period, and at least one of the table memories being referable regardless of the signal type.

15. (cancelled)

16. (cancelled)

17. (Previously Presented) A liquid crystal display control method for correcting optical response characteristics of a liquid crystal display panel, by subjecting image data supplied to the

liquid crystal display panel to enhancing conversion at least in accordance with image data of a directly previous vertical period and image data of a current vertical period,

the liquid crystal panel being capable of reproducing images based on image data of more than one broadcasting standard,

the method comprising the steps of:

(i) detecting whether a signal type of input image data is a video signal of a first broadcasting standard or a video signal of a second broadcasting standard, the video signal of the first broadcasting standard being different, in terms of a vertical frequency, from the video signal of the second broadcasting standard;

(ii) subjecting the image data to the enhancing conversion in a direction of gray level transition;

(iii) detecting a temperature in an apparatus;

(iv) referring to a table memory that stores an enhancing conversion parameter specified by the image data of the directly previous vertical period and the image data of the current vertical period;

(v) performing an operation on the image data so as to enhance the image data, using the enhancing conversion parameter; and

(vi) multiplying output data as a result of the step (v) by a coefficient corresponding to the signal type detected in the step (i) and the temperature detected in the step (iii).

18. (Previously Presented) A liquid crystal display control method for correcting optical response characteristics of a liquid crystal display panel, by subjecting image data supplied to the

liquid crystal display panel to enhancing conversion at least in accordance with image data of a directly previous vertical period and image data of a current vertical period,

the liquid crystal panel being capable of reproducing images based on image data of more than one broadcasting standard,

the method comprising the steps of:

(i) detecting whether a signal type of input image data is a video signal of a first broadcasting standard or a video signal of a second broadcasting standard, the video signal of the first broadcasting standard being different, in terms of a vertical frequency, from the video signal of the second broadcasting standard;

(ii) subjecting the image data to the enhancing conversion in a direction of gray level transition;

(iii) detecting a temperature in an apparatus;

(iv) referring to first table memory that stores an enhancing conversion parameter specified by the image data of the current vertical period and the image data of the directly previous vertical period, the first table memory being referred to in a case where the input image data is the video signal of the first broadcasting standard;

(v) referring to second table memory that stores an enhancing conversion parameter specified by the image data of the current vertical period and the image data of the directly previous vertical period, the second table memory being referred to in a case where the input image data is the video signal of the second broadcasting standard;

(vi) in accordance with the signal type detected in the step (i), performing an operation on the image data so as to enhance the image data, using the enhancing conversion parameter read out from the first or second table memory; and

(vii) multiplying output data as a result of the step (vi) by a coefficient corresponding to each temperature detected in the step (iii).

19 (Previously Presented) A liquid crystal display control method for correcting optical response characteristics of a liquid crystal display panel, by subjecting image data supplied to the liquid crystal display panel to enhancing conversion at least in accordance with image data of a directly previous vertical period and image data of a current vertical period,

the liquid crystal panel being capable of reproducing images based on image data of more than one broadcasting standard,

the method comprising the steps of:

(i) detecting whether a signal type of input image data is a video signal of a first broadcasting standard or a video signal of a second broadcasting standard, the video signal of the first broadcasting standard being different, in terms of a vertical frequency, from the video signal of the second broadcasting standard;

(ii) subjecting the image data to the enhancing conversion in a direction of gray level transition;

(iii) detecting a temperature in an apparatus;

(iv) referring to first table memories that store enhancing conversion parameters that correspond to respective temperatures in the apparatus and are specified by the image data of the

current vertical period and the image data of the directly previous vertical period, the first table memories being referred to in a case where the input image data is the video signal of the first broadcasting standard;

(v) referring to second table memories that store enhancing conversion parameters that correspond to respective temperatures in the apparatus and are specified by the image data of the current vertical period and the image data of the directly previous vertical period, the second table memories being referred to in a case where the input image data is the video signal of the second broadcasting standard; and

(vi) in accordance with the signal type detected in the step (i) and the temperature detected in the step (iii), performing an operation on the image data so as to enhance the image data, using the enhancing conversion parameter read out from one of the first and second table memories.

20. (cancelled)

21. (Currently Amended) The method as defined in claim 13-~~or~~ 14, further comprising the steps of:

(vi) performing, on temperature data corresponding to the temperature detected in the step (iii), a predetermined operation corresponding to each signal type of the input image data;

(vii) comparing the temperature after being subjected to the predetermined operation with predetermined threshold temperature data; and

(viii) in accordance with the comparison in the step (vii), generating a switching control signal for switching and controlling the enhancing conversion parameters.

22. (Currently Amended) The method as defined in claim 13-~~or~~14, further comprising the steps of:

(vi) comparing temperature data corresponding to the temperature detected in the step (iii) with predetermined threshold temperature data corresponding to each signal type of the input image data; and

(vii) in accordance with the comparison in the step (vi), generating a switching control signal for switching and controlling the enhancing conversion parameters.

23. (Currently Amended) A program for a computer that controls a liquid crystal television receiver capable of reproducing images based on image data of more than one broadcasting standards, the liquid crystal television receiver correcting optical response characteristics of a liquid crystal display panel by performing an enhancing conversion of image data supplied to the liquid crystal display panel, in accordance with image data of a directly previous vertical period and image data of a current vertical period, in such a manner as to causing the liquid crystal panel to have a transmittance specified by the image data, within a predetermined period of time,

the program causing the computer to perform the steps defined in claim 13, 14, 17, 18, ~~or~~ 19.

24. (Currently Amended) A recording medium recording a program for a computer that controls a liquid crystal television receiver capable of reproducing images based on image data of more than one broadcasting standards, the liquid crystal television receiver correcting optical response characteristics of a liquid crystal display panel by performing an enhancing conversion of image data supplied to the liquid crystal display panel, in accordance with image data of a directly previous vertical period and image data of a current vertical period, in such a manner as to causing the liquid crystal panel to have a transmittance specified by the image data, within a predetermined period of time,

the program causing the computer to perform the steps defined in claim 13, ~~14, 17, 18, or~~
~~19.~~